

$$1) f(x) = -\frac{1}{3}|x-6|-5$$

reflected over x-axis.
vertical compression by factor of $\frac{1}{3}$.
shifted 6 units RIGHT
shifted 5 units DOWN

2) the graph of $f(x) = |x|$ translated 4 units left and 5 units up, vertically stretched by a factor of 6, and reflected over the x-axis.

$$f(x) = -6|x+4|+5$$

Nov 7-11:46 AM

2.6 Absolute Value Notes

Graphing Absolute Value Functions

General Function: $y = a|x-h|+k$ where $a = \frac{\text{"slope"}}{(h, k) - \text{Vertex}}$

1. $y = |x+2|$
 $h = -2$ $k = 0$
 Vertex: $(-2, 0)$
 "slope": 1

2. $y = -|x-1|$
 $h = 1$ $k = 0$
 Vertex: $(1, 0)$
 "slope": -1

3. $y = 2|x+1|$
 $h = -1$ $k = 0$
 Vertex: $(-1, 0)$
 "slope": 2

4. $y = \frac{1}{2}|x-2|+1$
 $h = 2$ $k = 1$
 Vertex: $(2, 1)$
 "slope": $\frac{1}{2}$

5. $y = |x-2|+3$
 $h = 2$ $k = 3$
 Vertex: $(2, 3)$
 "slope": 1

6. $y = \frac{1}{3}|x|-2$
 $h = 0$ $k = -2$
 Vertex: $(0, -2)$
 "slope": $\frac{1}{3}$

Algebra 2
2.6 Absolute Value HW

Graphing Absolute Value Functions

1. $y = |x-3|$
 $h = 3$ $k = 0$
 Vertex: $(3, 0)$
 "slope": 1

2. $y = |x-3|+2$
 $h = 3$ $k = 2$
 Vertex: $(3, 2)$
 "slope": 1

3. $y = 2|x|-1$
 $h = 0$ $k = -1$
 Vertex: $(0, -1)$
 "slope": 2

4. $y = \frac{1}{2}|x+1|-2$
 $h = -1$ $k = -2$
 Vertex: $(-1, -2)$
 "slope": $\frac{1}{2}$

5. $y = -|x+4|-1$
 $h = -4$ $k = -1$
 Vertex: $(-4, -1)$
 "slope": -1

6. $y = -\frac{1}{3}|x|+1$
 $h = 0$ $k = 1$
 Vertex: $(0, 1)$
 "slope": $-\frac{1}{3}$

7. $y = -2|x|+4$
 $h = 0$ $k = 4$
 Vertex: $(0, 4)$
 "slope": -2

8. $y = \frac{2}{3}|x-1|-4$
 $h = 1$ $k = -4$
 Vertex: $(1, -4)$
 "slope": $\frac{2}{3}$

HW
2.6 Notes
Graph 12 Absolute Value Functions

Nov 7-2:06 PM